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Articles

The More Doctors Program and the rearrangement of medical residency education focused on Family and Community Medicine

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(to be continued p. 13)

The More Doctors Program (PMM) was created in 2013 to address problems such as the insufficient number and unequal distribution of doctors, and their inadequate education profile to fulfill the population needs. Among other axes, it proposes changes in medical education, including the rearrangement and expansion of residency, suggesting one seat for every medical course graduate. This study reflects upon the elements that were essential to propose and implement changes in medical residency through PMM. The following advances were identified: better distribution of residency seats across Brazil; diversification of universalization strategies; regulations for residency seats focused on Family and Community Medicine; and preceptorship qualification. The conclusion section presents the challenges faced by the required institutional effort to maintain PMM's actions in order to regulate residency and expand actions to other professions.

Keywords: Primary care. Medical education. Medical residency. More Doctors Program.

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Introduction

Education of specialists through medical residency programs is considered a golden standard throughout the world. On the other hand, discussions of alternatives to overcome the lack of doctors and their geographically unequal distribution have intensified in different countries. They point towards the need for deep changes that require long-term planning[1].

The first medical residency programs in Brazil date back to the 1940s. However, they were only recognized by law in 1981[2]. Despite its long period of existence, the subsequent creation of the Brazilian National Health System (SUS) and change initiatives in health education, it has always been a great challenge to establish a public policy to ensure a proper education of specialists according to the population's health needs[3,4].

One of the change milestones in this scenario was the National Support Program to the Education of Specialist Doctors in Strategic Areas (Pró-Residência), created in 2009 through a joint initiative by the Brazilian Ministry of Health and the Ministry of Education (MEC)[5]. The program's objective is to provide support to the education of specialists in priority regions and specialties to SUS. Family and Community Medicine has been a priority specialty throughout the program. The program expanded the fund of scholarships through the Ministry of Health, which became one of the main supporting entities in Brazil[4]. The expansion notably occurred in regions with less offer of residency programs. The Northeast and North regions experienced the largest proportional increase in the offer of residency seats[6]. Another important milestone was Presidential Decree no. 7562, of 2011. It determined that institutions and Medical Residency Programs should consider the need for specialist doctors according to the population's socio-epidemiological profile, following SUS principles and guidelines[4].

Despite the expansion process enabled by Pró-Residência, there are still significant deficits, particularly in Family and Community Medicine. In 2013, there were approximately 3,250 family doctors, representing less than 1% of the total number of doctors in the country[7]. This number is way below the one recommended by the World Health Organization (40%), considering there were more than 34,000 Family Health Strategy (ESF) teams at the time[6]. This deficit of doctors limited the ESF expansion, given the importance of primary care, including in the perspective of rearrangement of the healthcare network[8]. Besides the insufficient number of specialists, the expansion of Family and Community Medicine Residency (RMFC) seats provided by Pró-Residência was also insufficient and only got worse with the high levels of seats that were not filled[6,9].

In this context, the More Doctors Program (PMM), created in 2013, has two propositions under the scope of education of specialists. The first one is to ensure universal access to medical residency in order to equalize the offer of direct-access seats to the number of medical graduates. The second one is the requirement to take one to two years of RMFC in order to be able to enter any other medical residency program. According to this second proposition, Family and Community Medicine becomes a major specialty in the education of specialists[10]. By combining both strategies, PMM aims at creating 12,400 seats to universalize residency, primarily in RMFC[2].

The combination of federal policies related to management of work and education in health, and expansion of primary care with several initiatives, mainly at the municipal level, has been providing a unique moment to RMFC[2,4,11]. The application of these strategies, especially at the regulatory level, can equate Brazil to other countries where

the proportion of RMFC seats corresponds to more than 30% of the country's residency seats[12-14]. Additionally, in the long term, it could also supply qualified doctors to work in primary care[4].

The objective of this study is to reflect upon the elements that were decisive to create and implement changes in medical residency through PMM.

Methodology

The propositions that were officially declared as objectives of PMM's medical education in medical residency[4,10,15,16] were analyzed in this article. The objective was to find the answer to questions as: Which are the main propositions of PMM in medical residency? Was PMM able to effectively expand medical residency more than in previous periods, aimed at universalization? Which strategies were used to provide for the expansion of Medical Residency Programs? How did the program try to prioritize RMFC? Are changes sustainable? Or do they enable to resume this strategy in the future?

In order to do that, a retrospective documentation analysis was conducted based on the available rules (laws, orders, directives and resolutions), as well as technical reports of workshops and of the PMM's creation and implementation. An important element in the analysis was the General Family and Community Medicine Residency Workshop Report[17]. This document was created by the Ministry of Health in an event held on July 2015.

Therefore, this is a documentation study in which, besides analyzing rules, a non-systematic review was conducted in PubMed and SciELO databases. The following terms were used: *Programa Mais Médicos* (More Doctors Program), *Mais Médicos* (More Doctors) and *residência* (residency). The search was conducted starting from 2013, year of PMM's creation. A total of 17 articles were found, among which 6 were selected for being more directly related to PMM. There was insufficient availability of references on the theme. The material found was related to the experience of residency programs (mainly at the municipal level) and questioned the regulatory actions of specialist doctors in Brazil.

Based on these documents, we tried to identify evidence of changes in indicators, which could describe the program using methodological references and guidelines of the study field of the policies analysis[18,19], as well as elements that were important to understand PMM's creation and influences to medical residency.

The following databases were used for the analysis: Directorate of Health Education Development (DDES), of MEC's Higher Education Department (Sesu), including the National Medical Residency Committee Information System (SisCNRM); and Planning and Regulation Division for the Supply of Health Professionals (DEPREPS), of the Ministry of Health's Management Department for Work and Education in Health (SGTES), including Pró-Residência's Management Information System (SIGResidências). Data related to scholarships funded by Pró-Residência, through the Ministry of Health, were updated until 2015. Other data, including the total number of seats authorized by CNRM per state and RMFC seat occupancy, was updated in early 2016 and 2017, respectively. Population data was obtained from the Brazilian

Institute of Geography and Statistics. A descriptive analysis was conducted on the data, creating tables, graphs and maps in Microsoft Excel.

Consequently, the following categories were set: creation of the project of changes based on the PMM Law; choice of Family and Community Medicine as a priority specialty in PMM; path of implementation of the medical residency universalization proposal; residency expansion and RMFC seat occupancy; existing experiences and accumulated expertise in the education of preceptors.

Results and discussion

Creation of the project of changes under the PMM Law scope

Provisional Presidential Decree no. 621 was launched in 2013 and resulted in a series of debates related to medical education. Therefore, the chapter related to medical education was the one that underwent the most changes when it was voted into the PMM Law, according to a study conducted in the parliamentary amendments[20]. One of the most significant changes was the exclusion of parts related to the creation of a Second Cycle in medical education, involving in-service training in primary care for at least two years.

Therefore, the duration of the medical course was kept as is, but there was an important change to the education of specialists, who now need to be inserted into Family and Community Medicine. A residency universalization goal was also set by offering seats to all graduates, to be progressively implemented until 2018. This model, as published by the Ministry of Health[4], was inspired in the educational path of other countries that have universal health systems with residency seats to all graduating doctors[13,14,21].

This perspective dialogs with the need to regulate access to medical residency programs, changing their seat availability[8]. PMM established, through a presidential decree provided by Law 12871, the National Registration of Specialists. This registration is aimed at gathering information related to medical professionals in order to help MEC and the Ministry of Health parameterize actions of public health and education in health. This parameterization was conducted by calculating the number of doctors and finding out about their medical specialty, academic education, area of operation and distribution in the country.

The decree's publication worsened the debate with medical entities. Among other arguments, they affirmed the quality of education of specialists in Brazil would deteriorate[22]. Since the decree basically regulates a registration of specialists in the country, these entities' main fear is probably regarding the regulatory content of the provisions related to residency, since PMM brought mechanisms to link medical education according to SUS needs[6].

This debate is still important to discuss the required model of education of specialists in Brazil. The resistance of some sectors, notably of medical entities (comprising half of CNRM's seats), to understand the need to increase residency seats has hindered the achievement of the program's goals, particularly residency universalization and Family and Community Medicine feasibility as a priority specialty. After losing the

public debate related to foreign doctors coming to Brazil, the medical entities' discourse changed to an alleged loss of quality in residency caused by PMM[23].

It is also worth highlighting that the provisions related to education are seen as essential initiatives to address the need for doctors in Brazil in the long term[4], including the goal to reach 2.6 doctors per 1,000 population by 2026. PMM's process of expansion of undergraduate and residency seats is aimed at graduating doctors to replace the actions taken by supplying foreign doctors. This plan resulted in the characterization of this supply axis as an emergency action.

Based on this plan, the number of admissions in this supply through the Qualification Program for Primary Care Professionals (PROVAB) decreased from 2015. PROVAB's supervision was reoriented to foster the creation of RMFC seats[24]. Additionally, Resolution no. 2, of 2015, by CNRM, was published. According to this resolution, RMFC graduates have an additional 10% score to join other residency programs. The 2016 Annual Health Program set higher goals to increase residency, but did not include goals to increase supply. Therefore, preceptors, residents and RMFC graduates were increasingly expected to help in ESF, with less doctors being recruited through PMM's notice.

Choice of Family and Community Medicine as a priority specialty in PMM

Analyzing the process in which RMFC is determined as a priority specialty, it is possible to identify some elements that had influence in the insertion of primary care as a subject in the government agenda. Its origin can be traced back to the care model implemented in England from 1920, with the Dawson Report. In 1978, the World Health Organization held the first International Conference on Primary Health Care, in Alma-Ata. The conference discussed the organization of primary care as a condition to achieve the highest level of health of the population[25].

In Brazil, primary care was instituted with the implementation of the first health centers, in 1924, and with the creation of the Special Public Health Service (SESP), in the 1940s. SESP was focused on rubber extraction areas, which was an economically relevant sector at the time, and expanded to other regions of the country in the 1950s and 1960s. Other specific programs followed and, in 1988, the Federal Constitution set guidelines for primary care[26,27]. After that, the Family Health Program's creation, in 1994, is highlighted. The program was the main strategy to reorganize municipal health systems by focusing on the reorganization of healthcare, particularly of families and communities, and on the integration of care with health promotion[28].

In the 14th National Health Conference, held in 2011, a guideline was approved in which all families and people should be given the right to an ESF. According to the 2012/2015 National Health Plan, of the Ministry of Health, the organization of the health system based on healthcare networks, which should be assigned by primary care, is an essential strategy. Therefore, the expansion and qualification of primary care, organized by ESF, are part of a group of priorities presented by the Ministry of Health and approved by the National Health Council (CNS). This care modality is guided by the following principles: universality, accessibility, bond, care continuity, comprehensive care, accountability, humanization, equality and social participation.

The need to educate doctors to be well-prepared to work in primary care is a prerogative to the consolidation of the care model suggested to SUS. Therefore, based on Article 200 of the Federal Constitution, which confers to SUS the ordinance to build human resources in health, PMM determined Family and Community Medicine as the main specialty in the education of specialists in Brazil. Consequently, doctors are educated in a specialty that prepares them to practice a comprehensive and humanized care, with the ability to understand the personal, family and community context of citizens. Additionally, the presence of specialists and educational processes in primary care services improves the care provided to the population and its satisfaction with the service[28]. A recent study shows a greater reduction of hospital admissions due to sensitive causes to primary care in teams with doctors specialized in Family and Community Medicine[29].

The opportunity window presented a series of favorable conditions, such as the introduction of new themes in government agendas and decision-related ones. This is what happens when the political flow converges with the flows of problems and solutions[30]. In this proposal, besides the political moment favorable to changes, and the pressure and mobilization of groups towards the need for doctors and primary care strengthening, other factors were essential to the government plan's feasibility during the phases of creation and decision-making. These factors were: advances enabled by the expansion of primary care in health indicators, technical feasibility and budget, as a tool that influenced and coordinated policies.

Path of implementation of the medical residency universalization proposal

Considering the need to create an important number of new RMFC seats, different strategies were thought and discussed with managers in the three levels of SUS and with municipal management programs with successful experience in managing RMFC programs. As a result of this debate, strategies were suggested in three areas: expansion of seats by higher education institutions in partnership with the cities; expansion of RMFC seats by municipal and state managers, and public health schools; and creation of seats in the National RMFC Program[17].

Expansion of seats by higher education institutions (created before and after PMM) with the cities was considered a priority strategy and included different incentives. Some of these incentives were: scholarship funding to institutions; changes in the assessment criteria of institutions in order to lead to the creation of residency seats to all graduates, with at least 70% of RMFC; mandatory creation of RMFC seats to new private medical courses selected by notice; and directive of financial incentive to the structure and costs of higher education institutions that create or expand residency seats.

The expansion of RMFC seats by municipal and state managers, and Public Health Schools had different incentives. Some of these incentives were: resident scholarship funded by the Ministry of Health; funding to ESF created with residents; education of residency program managers; education of residency program preceptors (with scholarships); and mechanisms to retain professionals upon conclusion of the residency.

The creation of seats in the National RMFC Program (developed by Conceição Hospital Group in partnership with the Ministry of Health) was based on the defi-

nition of cities where PMM seat would be reverted into residency program. In this context, the supervisor provided help with distance education to the local preceptor who develops in-person activities. This program required the creation of a specific national rule backed by CNRM, which was an unprecedented strategy. It enabled the development of residency in other states where RMFC was not offered with support of the local management.

In this scenario, the publication of a notice related to a specific Pró-Residência and the creation of the National Preceptor Education Plan (PNFP) to the Family and Community Medicine Residency Program are highlighted as measures to subsidize these three strategies[2].

Another milestone to RMFC is Resolution no. 1, of 2015, by CNRM, which regulates the minimum requirements for its programs. The resolution was debated and created by the Technical Primary Care Chamber. The chamber is a specific space created by CNRM in 2014 to discuss primary care education. It is constituted by different representatives of teaching institutions, SUS workers and managers. This resolution established which competencies are essential to education in Family and Community Medicine and provided for parameters that take into consideration the primary care reality in Brazil and the need to expand RMFC.

Despite the efforts to universalize seats, it is estimated that CNRM did not advance into the regulation format of medical residency programs to which RMFC would be a prerequisite and into the necessary time to join other specialties[5]. This regulatory gap limits advances in the education of medical specialists in all areas, guided by primary care, to work in healthcare networks according to SUS principles and guidelines[31].

Expansion of residency and RMFC seat occupancy

In early 2013, year of PMM's creation, changes were already made in Pró-Residência, such as incentive to the expansion of seats by funding scholarships to pre-existing medical residency seats funded by other paying sources. In every two new seats created by the institution, one existing seat would be funded by the Ministry of Health[4]. Another initiative was Directive no. 1248/2013[32]. It established incentives to costs, renovation and expansion of services provided by healthcare networks of the Family and Community Medicine Residency Program. The program contemplated 22 public state, municipal and district institutions, as well as non-profit private hospitals and 13 federal institutions connected to MEC.

The process of expansion of RMFC scholarship funding intensified after the creation of PMM. Figure 1 shows that, from 2010 to 2015, 1,213 funded scholarships were created in the specialty, 634 of which (52.3%) were created in the last two years. The largest number of seats created was in 2015, after the publication of the results of two notices to grant scholarships by the Ministry of Health. One of them was exclusive to programs related to opening RMFC seats.

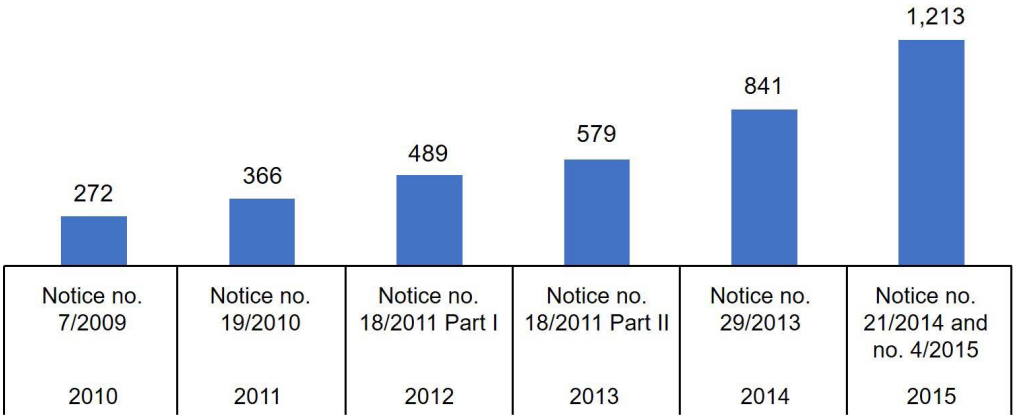


Figure 1. Cumulative of Family and Community Medicine Residency scholarships funded by Pró-Residência/Ministry of Health, 2010-2015, Brazil.

Source: DEPREPS, 2015.

With these efforts, the Ministry of Health started having a more decisive role in funding medical residency and enabled the creation of seats in specialties and regions that previously lacked this offer of education.

Analyzing the seats authorized per state from 2013 to 2015 shown in Table 1, it is possible to note that the Northeast and North regions, that had historical seat deficits, had a good percentage of growth in the proportion of residency seats per 100,000 population after PMM's creation. The South and Southeast regions, which are centers of education of specialists in the country[6], had an increase of 34% and 26%, respectively. Despite having a lower increase, when compared to the other regions, the Central-West region expanded its seats in 15% during this period. States with a low proportion of residency seats per inhabitant, such as Tocantins (103%), Rondônia (93%), Espírito Santo (86%), Piauí (80%), Sergipe (65%), Maranhão (64%) and Paraíba (63%), had a growth above 50% in this list, as shows Figure 2. This data shows that the measures adopted in the period to boost education of specialists in Brazil have reached priority regions.

Data available in SisCNRM until the first semester of 2016 shows that, after the PMM's implementation, actions to promote residency resulted in the opening of a total of 6,700 seats authorized by CNRM, representing an annual opening rate of more than 2,200. Although this is an important number, it does not reach the goal established by law[10]. Plans to expand residency seats forecasted a progressive increase in the annual growth rate until reaching the creation of 12,400 seats in 2018. It was taken into consideration that, for a quality expansion, in the first years, it would be necessary to educate preceptors, strengthen partnerships with the services network and involve SUS managers. Consequently, the expected growth pace would be higher in the following years.

Table 1. Residency seat and proportion of residency seats per 100,000 population, per federation unit and Brazilian macro-region, from 2013 to 2015.

Region/Federation unit	Residency seats		Proportion of residency seats per 100,000 population	
	2013	2015	2013	2015
Acre	47	52	6.05	6.47
Amazonas	188	221	4.94	5.61
Amapá	34	37	4.63	4.83
Pará	221	300	2.76	3.66
Rondônia	36	71	2.08	4.02
Roraima	42	46	8.61	9.10
Tocantins	37	77	2.50	5.08
North	**605**	**804**	**3.56**	**4.59**
Alagoas	106	141	3.21	4.22
Bahia	587	839	3.90	5.52
Ceará	551	613	6.28	6.88
Maranhão	87	145	1.28	2.10
Paraíba	140	231	3.58	5.82
Pernambuco	637	801	6.92	8.57
Piauí	63	114	1.98	3.56
Rio Grande do Norte	156	194	4.62	5.64
Sergipe	83	140	3.78	6.24
Northeast	**2,410**	**3,218**	**4.32**	**5.69**
Federal District	551	598	19.75	20.52
Goiás	293	380	4.55	5.75
Mato Grosso do Sul	187	217	7.23	8.18
Mato Grosso	111	153	3.49	4.69
Central-West	**1,142**	**1,348**	**7.62**	**8.73**
Espírito Santo	160	304	4.17	7.74
Minas Gerais	1,625	2,224	7.89	10.66
Rio de Janeiro	2,106	2,379	12.87	14.37
São Paulo	5,340	6,945	12.23	15.64
Southeast	**9,231**	**11,852**	**10.93**	**13.82**
Paraná	887	1,215	8.07	10.88
Rio Grande do Sul	1,233	1,619	11.04	14.39
Santa Catarina	411	605	6.20	8.87
South	**2,531**	**3,439**	**8.79**	**11.77**
Total	**15,919**	**20,661**	**7.92**	**10.10**

Source: DDES and DEPREPS, 2015.

With these actions, it is possible to envisage the universalization of medical residency seats to graduates. With the universalization of seats, the law[10] regulates that all doctors who join residency will take at least one year of RMFC, with at least one possibility of a small number of seats of joining nine other direct-access specialties: Medical Genetics, Occupational Medicine, Traffic Medicine, Sports Medicine, Rehab and Physical Medicine, Legal Medicine, Nuclear Medicine, Pathology and Radiology.

Regarding RMFC seat occupancy, as shows Figure 3, the number of residents in 2017 was 11 times higher than in 2002, but it was still below the required number of Family and Community Medicine specialists in the country. Besides the challenge of RMFC seat expansion, there was a concern as to the occupancy of these seats by Medicine graduates. The average occupancy rate during the period was of 34.6%, with a downward trend, reaching 26.1% in 2014. Idleness is motivated by different factors, such as the need to change the curricula of medical courses that still have insufficient experience in primary care. Nevertheless, idleness is not seen as a reason to limit expan-

sion. The possibility of filling seats in a short period as regulatory measures are implemented and the undergraduate courses are expanded is possible, as seems to occur from 2017. In this year, there was an increase in the occupancy rate to usual levels and 1,043 residents, number that is 36.7% above 2016.

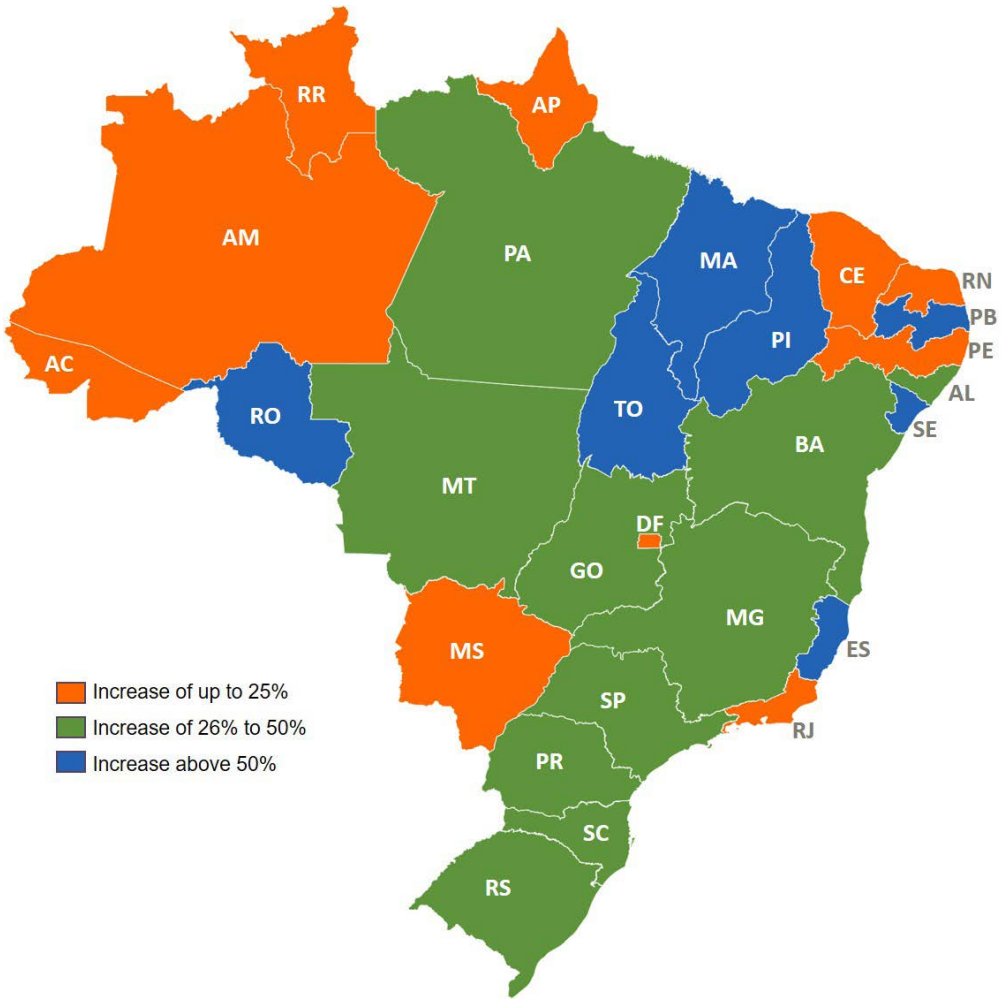
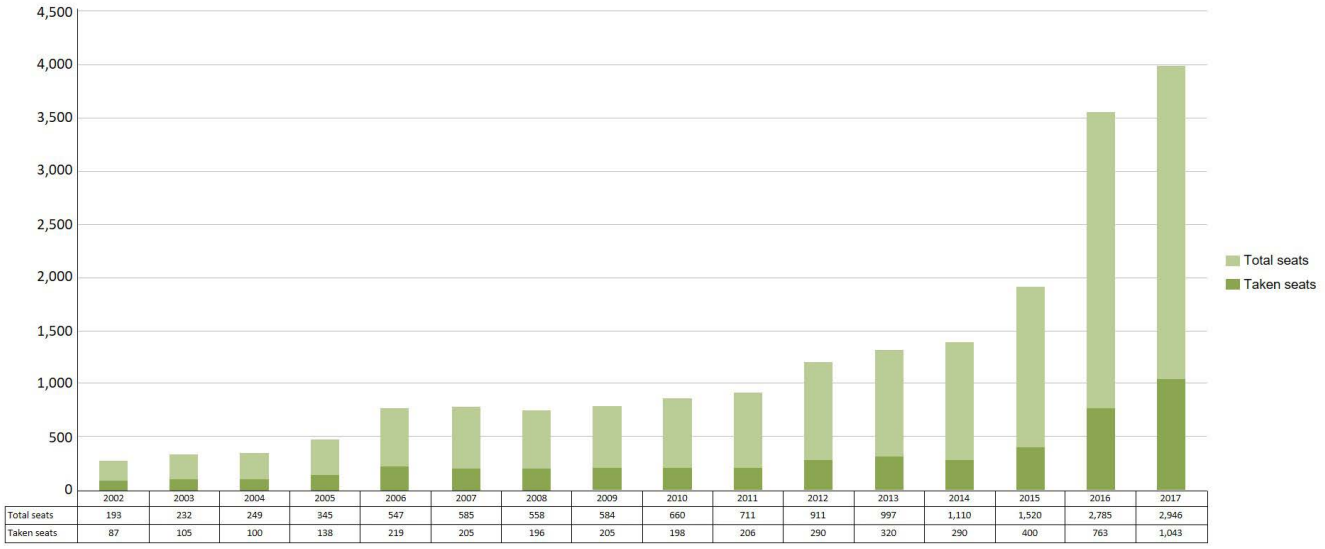


Figure 2. Percentage of growth in the proportion of residency seats per 100,000 population from 2013 to 2015.

Source: DDES and DEPREPS, 2015.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total seats	193	232	249	345	547	585	558	584	660	711	911	997	1,110	1,520	2,785	2,946
Taken seats	87	105	100	138	219	205	196	205	198	206	290	320	290	400	763	1,043

Figure 3. Total seats and Family and Community Medicine Residency Program seats taken in Brazil, from 2002 to 2017.

Source: SisCNRM, 2017.

An internal study conducted in 2014 by DEPREPS with 20 RMFC programs indicated some factors that could influence the occupancy of specialty seats in Brazil. They are: complementation of the federal scholarship by states and cities; connection with the educational institution; structure of the health services network; offer of educational incentives by the institution to residents, following the example of education courses and Master's programs; city's attractiveness; availability of Family and Community Medicine preceptors; and articulation with multiprofessional residency. The choice of the studied programs was based on the study conducted by Storti[2]. However, the theme still requires new studies to dig deeper into the analysis of these and other factors of attractiveness and RMFC seat occupancy, particularly the expectation of those who are still studying Medicine.

Existing experiences and accumulated expertise in the education of preceptors

The education of preceptors is a priority in the agenda of health residencies since 2003, through the partnership between the Ministry of Health and MEC. Innovations related to change in health education and work based on the creation of SGTES boosted initiatives as the development of RMFC.

The education of preceptors starts being a strategic demand for the development of PMM's goals. Therefore, the idea that the education area has a central and final place in health policies is corroborated[33].

In order to meet SUS needs, the commitment to educate professionals capable of identifying problems, building joint solutions with individuals and communities, interprofessionally working in multiprofessional teams and interdisciplinarily building

knowledge based on comprehensive and humanized practices is established. This is the profile expected from residents, which requires the participation of qualified preceptors and teachers. More than technicians, the objective is to educate citizens who are aware of their social potential, critical subjects who are able to identify problems and search for solutions[34].

Teaching and learning in preceptorship education in SUS face numerous challenges. The development of a preceptor profile and experimentation of active teaching and learning methodologies that challenge and instigate the participation of residents, and involve health team workers, mobilizing knowledge and practice, are the necessary differentials to the professional practice required by SUS. This practice has been present in the main trends of changes in health education[33].

The PNFP is part of the scope of strategies aimed at this change. Created in 2015, the plan suggests an increase in the number of qualified professionals to support RMFC education. Its goal was to educate more than 10,000 preceptors until 2018, in order to achieve 14,200 graduated professionals, considering what was previously accumulated. During the educational process, residents can join specialization in preceptorship, which can be taken concomitantly with residency. This specialization qualifies residents in pedagogical dimensions. Upon conclusion, residents can work as preceptors.

PNFP's main objective is to ensure the offer of a sufficient number of doctors specialized in preceptorship to Family and Community Medicine Residency Programs, who are qualified to ensure the expansion of Family and Community Medicine in Brazil. The plan aims at qualifying medical education in Brazil, ensuring more practical experience; qualifying resident-doctors as multipliers in the improvement of primary care; strengthening the Permanent Health Education Policy, integrating doctors into the creation and improvement of a teaching-service integration; expanding the medical understanding of public health policies in Brazil and of SUS operational mechanisms; encouraging researches in primary care; and developing medical education through the integration of teaching, service and the community, producing and systematizing knowledge[2].

PNFP's implementation aims at benefiting cities, residency programs, primary care network professionals and, particularly, SUS users. The exchange of knowledge, expansion of RMFC education and introduction of specializing resident-doctors in medical preceptorship in primary care in cities that adhere to the PNFP strengthen the care network and the promotion of health to the population's benefit[2].

The proposal of education in service, in RMFC and preceptorship, is a contemporary innovation to the immediate strengthening of SUS. It results in changes in health education that, in the short and medium term, will impact Family and Community Medicine and medical education in Brazil.

In order to make changes in health education in favor of in-service education, the way services are organized needs to change in order to welcome RMFC, as well as the education processes, towards a pedagogical support and organization of the education of resident-doctors and preceptors, spanning multiprofessional practices. Health and education are implied and integrated complementary sectors that influence practice. If there is no integration between them, weaknesses in the educational devices and bodies

in charge for health services are revealed, decontextualizing the object of health education and care focused on users[34].

The education of preceptors to RMFC has a privileged position in health policies. Therefore, it should be considered as such by governing people, workers, teachers and the society in general. Health education should ensure a real dialog between health sectors and teaching. In health management, it should potentialize a debate related to education and, in education management, it should guarantee a health-related debate[35].

Conclusion

Available evidence enables to affirm that PMM led to an expansion of medical residency seats in vulnerable regions of the country and in priority specialties. Additionally, it resulted in structuring actions, such as PNFP and the National Registration of Specialists.

Despite these results, there still are challenges to the expansion and occupancy of seats in strategic areas to SUS, such as primary care. Should the residency expansion not meet expectations after following PMM's structuring actions, the provision of qualified doctors in primary care may not be achieved, still requiring the need for foreign doctors on the outskirts of large cities and in remote areas. The expansion process during the studied period was not sufficient to completely revert regional inequalities in the offer of residency seats and still requires attention.

Additionally, PMM's education axis has important regulatory innovations to the health sector that can be expanded to other professions. The established devices aim at improving the dimension and plan of the workforce, enabling an education that meets health needs and a balance between offer and demand for professionals.

Brazil needs to increase its number of doctors and improve their education in order to address the reasons that required the creation of PMM. This is also necessary so that the country can consistently move forward to ensure the right to quality health through a free, universal, comprehensive and equal public system with popular participation.

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Authors' contributions

FP Oliveira, CA Araújo, OM Torres, AM Figueiredo and PA Souza contributed to writing and designing the work and to the creation of the manuscript. FA Oliveira and MM Alessio participated in the discussion of the results and in the critical review of the content. All authors actively participated in the content's final review.

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